

**Notice of Allowability**

Application No.

10/765,229

Examiner

Patrick J. Connolly

Applicant(s)

HILL, HENRY ALLEN

Art Unit

2877

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 25 March 2005.
2. ☒ The allowed claim(s) is/are 1-30.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 12.13.04; 03.25.05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
Gregory J. Pustley, Jr.  
Supervisory Patent Examiner

**DETAILED ACTION**

***Allowable Subject Matter***

Claims 1-30 allowed.

The following is an examiner's statement of reasons for allowance:

As to claim 1, the prior art of record, taken alone or in combination, fails to disclose or render obvious a confocal interferometry system including: an array of pinholes positioned to receive a source beam and, for each pinhole in the array of pinholes, separate the source beam into a corresponding reference beam on one side of the array of pinholes and a corresponding measurement beam on the other side of the array of pinholes; and a first imaging system arranged to image the array of pinholes onto an array of spots on or in the object so that the corresponding measurement beam for each pinhole of the array of pinholes is directed to a different corresponding spot of the array of spots and produces for that spot a corresponding return measurement beam, said first imaging system also arranged to image the array of spots onto the array of pinholes so that the corresponding return measurement beam from each spot of the array of spots is directed back to a corresponding different pinhole in the array of pinholes, wherein for each pinhole the pinhole array combines the return measurement and reference beams for that pinhole to produce a corresponding combined beam, in combination with the rest of the limitations of claim 1.

As to claim 25, the prior art of record, taken alone or in combination, fails to disclose or render obvious a confocal interferometry system including: an array of pinholes positioned to receive a source beam and, for any selected pinhole in the array of pinholes, separate the source beam into a corresponding reference beam on one side of the array of pinholes and a

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corresponding measurement beam on the other side of the array of pinholes; and a first imaging system arranged to image the array of pinholes onto an array of spots on or in the object so that the corresponding measurement beam for said any selected pinhole is directed to a corresponding spot of the array of spots and produces for that spot a corresponding return measurement beam, said first imaging system also arranged to image the array of spots onto the array of pinholes so that the corresponding return measurement beam from said given spot is directed back to said any selected pinhole, wherein the pinhole array combines the corresponding reference and return measurement beams to produce a corresponding combined beam; and a detector assembly including an array of detector elements aligned with the array of pinholes so that the corresponding combined beam for each pinhole is directed to different corresponding detector element of the array of detector elements, in combination with the rest of the limitations of claim 25.

As to claim 28, the prior art of record, taken alone or in combination, fails to disclose or render obvious a confocal interferometry system including: a mask defining a pinhole positioned to receive a source beam and separate the source beam into a reference beam on one side of the pinhole and a measurement beam on the other side of the pinhole; and a first imaging system arranged to image the pinhole onto a spot on or in the object so that the measurement beam is directed to said spot and produces for said spot a return measurement beam, said first imaging system also arranged to image said spot onto the pinhole so that the return measurement beam from said spot is directed back to said pinhole, wherein the pinhole combines the return measurement and reference beams to produce a combined beam, in combination with the rest of the limitations of claim 28.

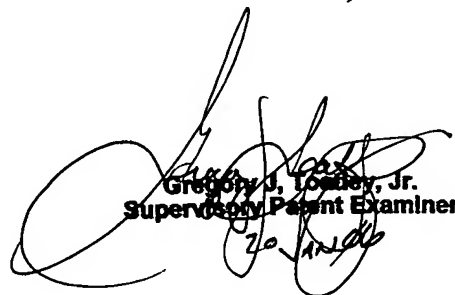
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Connolly whose telephone number is 571.272.2412. The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571.272.2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pjc/PK  
01.10.2006

  
Gregory J. Toatley, Jr.  
Supervisory Patent Examiner